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TRANSMITTAL FORM (to be used for all correspondence after initial filing) APR 25 2007 UNITED STATES PATENT & TRADEMARK OFFICE	Application Number	09/982,317
	Filing Date	October 18, 2001
	Inventor(s)	Arnab DAS et al
	Group Art Unit	2616
	Examiner Name	Habte Mered
	Attorney Docket Number	129250-002120/US

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Date	April 25, 2007		

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IN THE U.S. PATENT AND TRADEMARK OFFICE

Application No.: 09/982,317

Group Art Unit: 2616

Filing Date: October 18, 2001

Examiner: Habte Mered

Applicant: Arnab DAS et al.

Title: A HYBRID TRANSMISSION METHOD FOR WIRELESS
COMMUNICATIONS

Attorney Docket: 129250-002120/US

APPLICANTS'/APPELLANTS' BRIEF ON APPEAL

MAIL STOP APPEAL BRIEF - PATENTS

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April 25, 2007

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APPELLANTS' BRIEF ON APPEAL

I. REAL PARTY IN INTEREST:

The real party in interest in this appeal is Lucent Technologies Inc. Assignment of the application was submitted to the U.S. Patent and Trademark Office and recorded at Reel 012284, Frame 0497.

II. RELATED APPEALS AND INTERFERENCES:

There are no known appeals or interferences that will affect, be directly affected by, or have a bearing on the Board's decision in this Appeal.

III. STATUS OF CLAIMS:

Claims 1-5, 8, 11-14 and 17-19 are pending in the application, with claims 1 and 14 being written in independent form.

Claims 1-5, 8, 11-14 and 17 remain finally rejected under 35 U.S.C. §103(a) based on a combination of Koorapaty et al., U.S. Patent No. 6,631,124 ("Koorapaty"), Odenwalder et al, U.S. Patent No. 6,804,220 ("Odenwalder") and U.S. Patent No. 6,952,454 to Jalali et al ("Jalali"). Claim 6 was finally rejected under 35 U.S.C. §103(a) based on a combination of Koorapaty, Odenwalder and Toskala et al, U.S. Patent No. 6,535,503 ("Toskala"). Claims 18 and 19 were finally rejected under 35 U.S.C. §103(a) based on a combination of Koorapaty, Odenwalder and Malkamaki et al., U.S. Patent No. 5,577,024 ("Malkamaki"). Claims 1-5, 8, 11-14 and 17-19 are being appealed.

IV. STATUS OF AMENDMENTS:

A Request for Reconsideration ("Request") was filed on January 16, 2007. In an Advisory Action dated February 12, 2007, the Examiner stated that the Request was considered but did not place the application in condition for allowance.

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V. SUMMARY OF CLAIMED SUBJECT MATTER:

(i). Overview of the Subject Matter of the Independent Claims

The present invention is directed at transmission techniques which result in reduced delays and a more efficient use of available bandwidth. More specifically, independent claim 1 reads as follows (specification citations follow in parenthesis):

1. A method for transmitting information in a communication channel of a wireless communication system, the method comprising:
dividing the communication channel into a plurality of time slots of equal duration;
sub-dividing, on other than a time division basis, each of the plurality of time slots to comprise two or more sub-slots, and
transmitting at least one transmission, among a number of transmissions, that comprises a number of contiguous sub-slots associated with at least two time slots, where the number of subslots included in the transmission from each timeslot may vary from timeslot to timeslot; and
transmitting a separate control channel for each transmission,
wherein the duration of the separate control channel is dependent upon the number of transmitted sub-slots.

(see specification, page 3, lines 14-33; page 4, lines 3-30; page 5, lines 10-18; page 6, line 6 to page 9, line 5, and Figures 1 and 2 (attached), for example).

Independent claim 14 reads as follows:

14. A method for transmitting information in a communication channel of a wireless communication system, the method comprising:
dividing the communication channel into a plurality of time slots of equal duration according to a time division multiple access scheme;
sub-dividing each of the plurality of time slots to comprise two or more sub-slots according to a code division multiple access scheme;
transmitting at least one transmission, among a number of transmissions, that comprises a number of contiguous sub-slots associated

with at least two time slots, where the number of subslots included in the transmission from each timeslot may vary from timeslot to timeslot; and transmitting a separate control channel for each transmission, wherein the duration of the separate control channel is dependent upon the number of transmitted sub-slots.

(see specification, page 3, lines 14-33; page 4, lines 3-30; page 5, lines 10-18; page 6, line 6 to page 9, line 5; page 10, line 32 to page 11, line 1, and Figures 1 and 2 (attached), for example).

In order to make the overview set forth above concise the disclosure that has been included, or referred to, above only represents a portion of the total disclosure set forth in the Specification that supports the independent claims.

(ii). The Remainder of the Specification Also Supports the Claims

The Appellants note that there may be additional disclosure in the Specification that also supports the independent and dependent claims. Further, by referring to the disclosure above the Appellants do not represent that this is the only evidence that supports the independent claims nor do Appellants necessarily represent that this disclosure can be used to fully interpret the claims of the present invention. Instead, this disclosure is an overview of the claimed subject matter.

VI. GROUND OF REJECTION TO BE REVIEWED ON APPEAL:

Appellants seek the Board's review and reversal of the rejection of claims 1-5, 8, 11-14 and 17 under 35 U.S.C. §103(a) based on a combination of Koorapaty, Odenwalder and Jalali, claim 6 under 35 U.S.C. §103(a) based on a combination of Koorapaty, Odenwalder and Toskala, and claims 18 and 19 under 35 U.S.C. §103(a) based on a combination of Koorapaty, Odenwalder and Malkamaki.

VII. ARGUMENTS:

A. The Section 103 Rejections of Claims 1-5, 8, 11-14 and 17

Claims 1-5, 8, 11-14 and 17 were rejected under 35 U.S.C. §103(a) based on a combination of Koorapaty, Odenwalder and Jalali. Appellants respectfully disagree for at least the following reasons.

Neither Koorapaty, Odenwalder nor Jalali, taken separately or in combination, discloses or suggests the transmission of at least one transmission that comprises a number of contiguous *sub-slots* associated with at least two timeslots using a communications channel, and the transmission of a separate control channel for each transmission, where the duration of the separate control channel is dependent upon the number of transmitted sub-slots in a communications channel (i.e., data communications channel), as in claims 1-5, 8, 11-14 and 17.

During prosecution the Examiner acknowledged that neither Koorapaty nor Jalali disclosed such a separate control channel. To make up for this deficiency the Examiner relied upon Odenwalder. However, the Appellants respectfully submit that Odenwalder does not make up for the deficiencies of Koorapaty or Jalali for at least the following reasons.

In Odenwalder, "primary" and "secondary" control channels are "consolidated" into one channel. The consolidated control channel includes CRC values that are used to determine the number of time slots occupied by an information packet in the consolidated control channel. There is no indication in Odenwalder that: (a) the length of a given, separate control channel (i.e., Odenwalder's consolidated channel) is dependent upon the number of *subslots* in (b) a communications channel. Instead, the length of Odenwalder's consolidated channel appears to depend on the number of *timeslots*, not

subslots, in the *control* channel, not in a separate communications (i.e., data) channel as claims 1-5, 8, 11-14 and 17 of the present invention.

In the Advisory Action the Examiner requests that the Appellants provide citations from Odenwalder which discusses the consolidation of its primary and secondary control channels into one channel. In column 6, lines 27-31 Odenwalder states that "the primary and secondary packet data control channels can be consolidated into one forward packet data control channel."

With respect to Appellants position that Odenwalder does not use subslots in a communication channel to determine the length of a separate control channel, the Examiner in the Advisory Action states that "a subslot is still a timeslot as it is still a portion of a timeslot". While, in general, a subslot may be a part of timeslot the number of subslots may be far greater than the number of timeslots. Thus, the length of a control channel would be different if timeslots were measured, instead of subslots. Further, the timeslots in Oldenwalder are in the control channel, not a separate communications (i.e., data) channel as in the claims of the present invention.

Accordingly, Appellants respectfully request that the members of the Board reverse the decision of the Examiner and allow claims 1-5, 8 and 11-14.

B. The Section 103 Rejection of Claim 6

Claim 6 was rejected under 35 U.S.C. §103 (a) based on the combination of Koorapaty, Odenwalder and Toskala. Appellants respectfully disagree for at least the following reasons.

Appellants note that claim 6 depends on claim 1 and is therefore patentable over the combination of Koorapaty, Odenwalder and Toskala for the reasons set forth above with respect to claim 1 because Toskala does not overcome the deficiencies of Koorapaty and Odenwalder.

Accordingly, Appellants respectfully request that the members of the Board reverse the decision of the Examiner and allow claim 6.

C. The Section 103 Rejections of Claims 18 and 19

Claims 18-19 were rejected under 35 U.S.C. §103(a) based on the combination of Koorapaty, Odenwalder and Malkamaki. Appellants respectfully disagree for at the following reasons.

Appellants note that claims 18-19 depend on claim 1 and are, therefore, patentable over the combination Koorapaty, Odenwalder and Malkamaki for the reasons set forth above with respect to claim 1 because Malkamaki does not overcome the deficiencies of Koorapaty and Odenwalder.

Accordingly, Appellants respectfully request that the members of the Board reverse the decision of the Examiner and allow claims 18 and 19.

Conclusion:

Appellants respectfully request that members of the Board reverse the decision of the Examiner and allow claims 1-5, 8, 11-14 and 17-19.

The Commissioner is authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 50-3777 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

Respectfully submitted,
Capitol Patent & Trademark Law Firm, PLLC

By: _____

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VIII. CLAIMS APPENDIX

1. A method for transmitting information in a communication channel of a wireless communication system, the method comprising:

dividing the communication channel into a plurality of time slots of equal duration;

sub-dividing, on other than a time division basis, each of the plurality of time slots to comprise two or more sub-slots, and

transmitting at least one transmission, among a number of transmissions, that comprises a number of contiguous sub-slots associated with at least two time slots, where the number of subslots included in the transmission from each timeslot may vary from timeslot to timeslot; and

transmitting a separate control channel for each transmission,

wherein the duration of the separate control channel is dependent upon the number of transmitted sub-slots.

2. The method according to claim 1, wherein each of the two or more contiguous sub-slots is separately transmitted according to a code division multiple access scheme.

3. The method according to claim 2 wherein, in any one of the plurality of time slots, each of a plurality of transmissions are separately coded and carried in a separate sub-slot simultaneously in such time slot.

4. The method according to claim 3 wherein each of the plurality of transmissions correspond to a separate user of the wireless communication system.

5. The method according to claim 3, wherein each of the plurality of transmissions correspond to separate transmissions of a single user of the wireless communication system.

6. The method according to claim 1, wherein each of the two or more sub-slots within a particular time slot corresponds to a different frequency according to a frequency division multiple access scheme.

7. (Cancelled)

8. The method according to claim 1, wherein the communication channel comprises time slots each having a duration of 1.25 milliseconds and wherein each of the time slots comprises at least two sub-slots.

9. (Cancelled)

10. (Cancelled)

11. The method according to claim 19, wherein the communication channel is a forward packet data channel (F-PDCH), wherein information is transmitted as encoder packets in the forward packet data channel (F-PDCH), and wherein the separate control channel is a forward secondary packet data control channel (SPDCCH).

12. The method according to claim 11, wherein the forward secondary packet data control channel (SPDCCH) includes:

a sub-slot start field for identifying a sub-slot within a time slot in which a particular transmission starts; and

a sub-slot count field for identifying the total number of sub-slots that carry the particular transmission.

13. The method according to claim 11, wherein a plurality of forward secondary packet data control channels (SPDCCH) correspond to a plurality of simultaneous transmissions on the forward packet data channel (F-PDCH), and wherein each of the plurality of secondary packet data control channels (SPDCCH) identifies a sub-slot start position within a time slot in which a particular transmission starts.

14. A method for transmitting information in a communication channel of a wireless communication system, the method comprising:

dividing the communication channel into a plurality of time slots of equal duration according to a time division multiple access scheme;

sub-dividing each of the plurality of time slots to comprise two or more sub-slots according to a code division multiple access scheme;

transmitting at least one transmission, among a number of transmissions, that comprises a number of contiguous sub-slots associated with at least two time slots, where the number of subslots included in the transmission from each timeslot may vary from timeslot to timeslot;and

transmitting a separate control channel for each transmission,

wherein the duration of the separate control channel is dependent upon the number of transmitted sub-slots.

15. (Cancelled)

16. (Cancelled)

17. The method according to claim 1, wherein bandwidth in the communication channel is allocated on a fractional basis to carry a plurality of transmissions using a combination of a variable number of contiguous sub-slots and a variable number of contiguous time slots.

18. The method according to claim 1, wherein transmissions within the communication channel include two or more transmissions selected from the group consisting of new transmissions, retransmissions, acknowledgements (ACKs), negative acknowledgements (NACKs), and multi-level ACK/NACK message corresponds to multi-level ACK/NACK messages.

19. The method according to claim 18, wherein a multi-level ACK/NACK message corresponds to multiple transmissions that end within the same time slot.

20. (Cancelled)

IX. EVIDENCE APPENDIX

None.

X. RELATED PROCEEDINGS APPENDIX

None.



FIG. 1

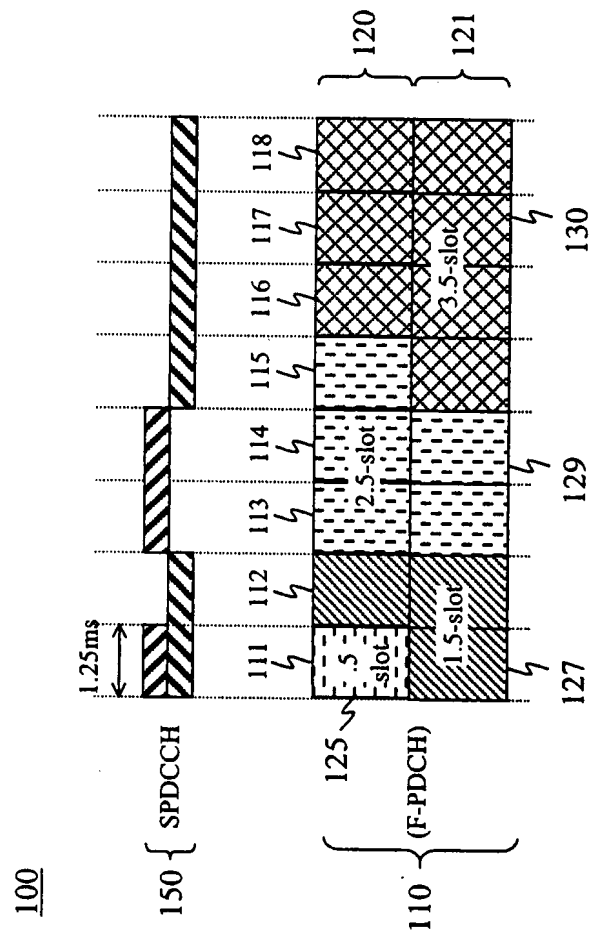


FIG. 2

